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ABSTRACT

For more than a decade, the Academy for Educational Development's Clearinghouse on Development Communication has collected information and chronicled trends in the application of communications technology to development--communication which has as its purpose the deliberate promotion of one or more aspects of national development. This paper summarizes what this agency has learned about communication and development from various perspectives and discusses the future use of new technologies, such as telecommunications and computers. The areas included are: (1) strategies (media based, instructional design, participation, and marketing); (2) the importance of language, culture, and politics; (3) the development sector (agriculture, family planning, education, health, nutrition); (4) technology (television, radio, print media, traditional and folk media, other media, telecommunications, computers); and (5) lessons for the future (audience orientation, targeting areas for change, media networks). Examples of successful communications projects are included to illustrate the positive impact of media intervention on education and training. A concluding section calls for implementation of development communications strategy which is comprehensive, balanced and complete, and the use of practical and reliable research techniques which permit tracking of an individual's response to communications programs so that mid-course corrections can be made as needed. (JB)

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# BEYOND THE FLIPCHART

## THREE DECADES OF DEVELOPMENT COMMUNICATION

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# BEYOND THE FLIPCHART

## Three Decades of Development Communication

Prepared by the
Academy for Educational Development

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1255 Twenty-third Street, N.W.
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## FOREWORD

For more than a decade the Academy for Eduational Development's Clearinghouse on Development Communication has collected information and chronicled trends in the application of communications technology to development - communication which has as its purpose the deliberate promotion of one or more aspects of national development. It has provided a link among field practitioners, academics working on new theoretical constructs, and planners eager to make use of a growing array of new communications hardware. In the past ten years we have learned a great deal about the ways in which communications can promote greater equity and more effective development.

In the classroom, interactive instructional radio has demonstrated that radio can dramatically improve student performance without costly investment in teacher training and new textbooks.

In agriculture, programs like Masagana 99 in the Philippines and the Basic Village Education Project in Guatemala, have provided clear models of communication's role in improving agricultural extension and farmer performance.

In health and family planning, social marketing is a new organizing principle that relies heavily on communication as a vehicle for promoting new health products and changing traditional behaviors and beliefs.

New technologies, principally telecommunications and microcomputers, have opened new areas of possibility and inquiry. These hardware advances are changing the ways we use and perceive communication in fundamental, and as yet not well understood ways.

This paper is an effort to summarize what we have learned about communication and development from various perspectives. It attempts to capture the major currents of change and to describe the accumulated experience to date. It functions in some ways as an agenda for the future; a checklist which takes us beyond the flipchart, to a new generation of communications for development.

## A. INTRODUCTION

At 8 p.m. EST on Sunday, October 30, 1938, CBS's Mercury Theater of the Air began broadcasting Orson Welles' production of "War of the Worlds." No other radio show in history has proven so powerful. In New Jersey, families tied wet cloths over their faces to escape the supposed "gas attacks;" a woman in Pittsburgh, screaming "I'd rather die like this," was barely prevented from taking poison. Thousands of people all over the U.S. phoned their newspapers and local police for advice on how to repel the Martian invaders. The show was brilliant radio, and America panicked.

Between 1945 and 1950 more than 40 new nations emerged. Former colonies of European countries, most were ill-equipped for independence. Their people were largely uneducated and unskilled in dealing with modern life; their economies were precariously dependent on a single crop or mineral resource. By the 1950s, organizations such as the Agency for International Development (AID), and international entities, such as the World Bank and the UN-related agencies, established development (the transforming of societies into viable, independent entities) as a geopolitical priority.

These two phenomena--one of historical curiosity and the other of historic significance--continue to shape the thrust and purpose of development communication today. However inadvertently, Orson Welles demonstrated conclusively the ability of the electronic media to influence the way people think and behave on a mass scale. This, coupled with the world's growing number of emerging nations and the impetus towards development assistance fostered by public and private agencies, constitutes a challenge to use every means possible to educate and inform tens of millions of individuals scattered across some 120 countries around the world. Development communication is the link between these two events and the response to a dilemma: how can modern communication with its potential to reach and educate be used systematically to inform, persuade, and remind?

Any description of development would have to reflect two overlapping and concurrent concerns--sectoral interests such as agriculture, education, health, and nutrition, and the world's socio-economic conditions with the specifics of language, culture, tradition, nationhood, and climate. These elements interact, like colored

pieces in a kaleidoscope, continuously creating new images, priorities, and conditions. Communication adds two more variables: a growing array of communication technologies and an increasingly sophisticated set of strategies for structuring and organizing new technologies to meet the needs of development.

Development communication has always been eclectic, drawing on disciplines such as instructional design, journalism, advertising, marketing, engineering, behavioral psychology, anthropology, theater, and the visual arts to produce programs for every kind of person on almost every subject imaginable. Its eclecticism and its service orientation to other development sectors has left it without a formal constituency of its own. Only recently has it been possible to study development communication as a separate discipline. Only UNICEF, of all the international organizations, now has a field staff position which even includes communication in the title: Project Support Communication Officer.

Communication has often been a discipline "in-the-making," trying to convince agronomists, physicians, curriculum designers, and nutritionists that radio, TV, print, theater, puppets, folk tales, etc., if well organized, sensitively prepared, systematically tested, and regularly monitored, can offer a low-cost way of increasing grassroots acceptance of specific program objectives.

Development communication includes the study, analysis, promotion, and evaluation of communication technology to all sectors of development. It is based upon the premise that development problems, particularly as they touch the lives of poor people, are massive in scale, requiring more than experimental, costly, or unreplicable solutions. It does not oppose or intentionally compete with face-to-face strategies, but seeks to complement and improve the outreach and impact of those strategies.

Some of the first applications of development communication were in the education field, where concern that schooling was reaching too few children in developing countries made radio and television an appealing alternative. Currently, applications have been extended to agriculture, population, health, and nutrition. In each case, the objective is to extend the educational impact of specific development programs by the addition of a communication component to an existing program or by addressing a development problem directly through a communication strategy.

A wide variety of technologies are involved in development communication, and much debate centers around the value of specific technologies--radio, TV, satellites, computers. Communication professionals are divided into several ideological camps--the appropriate technology buffs, the mass media advocates, the instructional technologists, and others. They include a wide range of theorists, technicians, promoters, and artists, each with a slightly different view of the communications revolution.

**Communication cannot solve all our problems.** Indeed, it is becoming increasingly clear as we study social change in behavioral terms, that people's attitudes, knowledge, and skills, traditionally considered the domain of communications, are only a part of a complex set of factors which influence an individual's willingness and ability to make a positive change. Availability of service, reward and incentive structures, external and often hidden constraints, all interact to inhibit or promote adoption of new development practices. In this current milieu, communication acquires new significance because of its ability to provide surrogate incentive structures (a radio-based lottery which motivates mothers to try a new medication for diarrhea) but loses credibility as a "wonder cure" for development problems, as we recognize that people's behavior is often inconsistent with their beliefs. Few chain smokers in the U.S. today would claim that they do not "know" smoking is bad for their health. Better TV ads on the dangers of smoking will not affect these hard-core smokers.

**All media are not equally powerful, useful, or cost-effective.** Radio should not be considered in the same way as posters, flyers, or puppets; TV should not be compared with tape recorders for effectiveness. Media have different strengths, some more potent than others. Radio, for example, stands out as a uniquely powerful resource because of its extraordinary reach and the depth of scientific evidence on how best to use radio for development. Other media can play valuable roles in carrying the information revolution to the village--but clearly they represent different levels of effectiveness. New technologies such as computers and solar power systems are exciting and promise to expand outreach even further.

Finally, two **factors interact** to influence the effectiveness of communication for development:

- **The quality of the message to be promoted,** which must be specific, achievable, and salient; specific, so that it will produce results recognized by the user as beneficial.

  **The quality of the intervention itself,** which must:

  -- accurately reflect audience orientation,

  -- be multifaceted and interactive,

  -- be monitored and adjusted to reflect changes in the audience,

  -- be persistent, and

  -- be persuasive and creative.

The following review reflects the approach that the Academy for Educational Development has evolved over the past several years, and proposes an agenda which it believes is critical for the next ten years of development communication.

## B. REVIEWING STRATEGIES AND THE IMPACT OF GEOGRAPHY

This section attempts to define what elements the Academy, after 12 years of working in the field of development communication, feels are important to an effective development communication diffusion process. The following discussion is organized in two subsections: Strategies for Applying Communications Effectively, and the Impact of Geography on communication use.

### 1. Strategies

Development communication strategies have been characterized in many ways. For our purpose, we have chosen the following four categories as ways to highlight key differences in approach:

- Media-based strategies
- Instructional design strategies
- Participatory strategies
- Marketing strategies

Each represents a particular set of priorities on how to use communications to meet various development needs. The categories are not schools or dogma in any formal sense, and an individual program often reflects aspects of several strategies. They are, however, a useful way of describing the fundamental differences between various approaches to organizing communication for development.

### a. Media-based Strategies

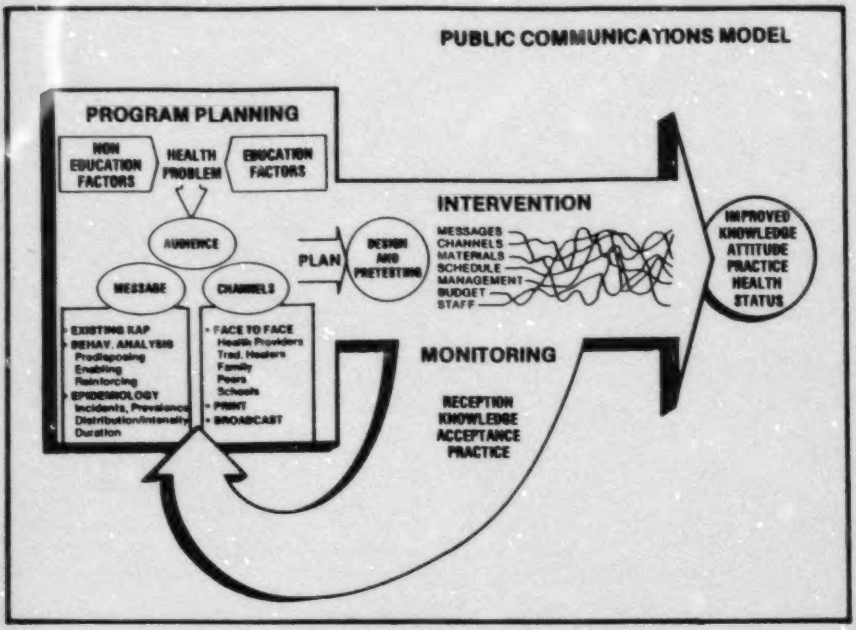
Communicators traditionally group their activities around their preferred medium. This is the easiest, most popular, and probably least effective organizing technique. Media strategists typically begin by asking "What can I do with radio?", "How can I use TV to get my message across?," Considerable research has been directed at media-specific strategies, posing questions such as: Which medium is best? Which is cheapest? and, at a more sophisticated level, "Which medium is best to popularize, teach, reinforce, remind, etc.?" This research has produced useful insights into the strengths and weaknesses of specific media and an almost universal recognition that a single medium alone accomplishes much less than several media in combination.

The second and third strategies, of the instructional designers and the participatory strategists, developed during the same period almost as ideological counterpoints. Each represents methods of organizing various media in coherent and purposeful ways around quite different goals.

### b. Instructional Design Strategies

The educators or instructional design strategists focus on individual learning as the fundamental objective. They draw heavily on formal learning theories and focus on a systems approach to materials development. Much of our understanding of formative evaluation, pretesting, and sequenced program design is the result of their work. Programs like Radio Mathematics in Nicaragua, Basic Village Education in Guatemala, and the Korean Educational Development Institute stand out as particularly noteworthy examples of this instructional approach.

Instructional designers are plan- and systems-oriented. They identify goals, success criteria, participants, resources, approaches, and time as factors to be weighed, analyzed, structured and codified in a guiding plan. Their activities typically fall into three broad and sequentially related stages--**planning, implementation, and evaluation.** The following diagram, developed by the Academy to describe our approach to instructional media design, describes the fundamental principles which guide most instructional practitioners:




The diagram illustrates the relationship between three key stages: preprogram planning and development, the instructional intervention, and an ongoing monitoring and evaluation system with clear results in knowledge, attitudes, and behavior.

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**The planning and development stage** emphasizes the collection of information needed to prepare an effective program design. This information answers important questions such as: (a) Who in the total population should be selected as the principal audience? (b) What communication channels are most appropriate for these people? (c) What behaviors should be advocated? (d) What resources are needed to conduct the program? The final program plan, including budget resource requirements, is based upon the results of this investigation.

The **intervention** is divided into discrete cycles. Each cycle covers the same basic information with a slightly different approach. These cyclical changes reduce audience fatigue and permit a continued renewal of audience involvement. From an administrative perspective, the cycle approach is important because it permits program planners to design segments of the program sequentially. This means they can work with fewer production facilities over a longer period of time; more importantly, they incorporate results of the earlier phases into the planning of later phases.

**Monitoring and evaluation** permit the planner to detect problems and make important iterative changes in educational strategy. A monitoring system which permits the regular sampling of select segments of the audience is developed. Planners learn: (a) how a microcosm of their intended audience feels about the advice it is receiving; (b) whether the audience is taking that advice; and (c) what obstacles they are encountering. Monitoring devices also can point out important logistics problems such as a breakdown in delivery of printed matter or use of inappropriate broadcast times to meet audience needs. This type of ongoing evaluation is essential for making corrective changes in future cycles, as well as for providing program administrators with a clear idea of their overall potential success. The educators are, typically, organized, sequential, data-driven, and outcome-motivated.

### c. Participation Strategies

**With participatory strategists,** community cooperation and personal growth are the central organizing principles. It is not so much what information a particular individual learns, but rather the experience of participating as an equal in a shared process. The French pioneered some of the earliest international experiments in mediated participation through their animation programs in Niger and Senegal. The social revolution of the '60s and '70s focused even greater attention on communication's role as liberator and social binder.

A whole genre of nonformal education programs experimented with communication media to foster greater participation. The cassette tape recorder with its low cost, durability, and capacity to capture village opinions forever on tape became a popular medium. It was also during this period that traditional and folk media became fashionable and respectable. Song, theater, puppets, and games were added to the lexicon of development communication. Again, considerable research, sometimes less than rigorous, supported the belief that these media could indeed foster increased popular participation. Tanzania's Man is Health and Food is Life campaigns, along with Paolo Freire's literacy programs and their offspring in Latin America, and Asia's experiments with folk media, all enriched our vocabulary and understanding of communication's potential.

Everett Rogers, in a paper entitled Communication and Development: the Passing of the Dominant Paradigm, linked these shifts toward greater participation with a change in the definition of development. Rogers argued that Wilbur Schramm's Mass Media and National Development codified the first paradigm of communication as a tool for addressing the internal constraints of development: lack of education and training, poverty, and poor planning. The new paradigm Rogers proposed focuses on other constraints: equality of distribution, traditional versus modern values, lack of popular participation, and the arbitrary role of developed nations in controlling key resource allocations for emerging nations. The new paradigm opened new areas of concern--the content of messages, the use of traditional media, the importance of change agents, power sharing, and ultimately the world information order debate. These issues remain largely unresolved, but they continue to represent a powerful agenda for development.

d. **Marketing Strategies**

**Marketing** emerged as probably the most hard-headed, and sometimes the most banal, of the communications strategies. "If you can sell toothpaste, cigarettes, and beer, why can't you sell health, agriculture, and family planning?" The notion of social marketing was codified in 1975 when Kohler published Marketing for Nonprofit Organizations. A generation of frustrated marketers rushed to embrace social causes, attempting to free societal problems from the clutches of academics and do-gooders. If the instructional designers were the most erudite, the advocates of participation the most humane, then the marketers were the most practical and down-to-earth.

But even practical people need jargon to establish their uniqueness. Target audiences, segmentation, channel strategies, positioning, product, intercept, and focus groups are now familiar language to a growing cadre of development communicators in Indonesia, Egypt, Brazil, and elsewhere. Social marketers also brought a new perspective and raised some interesting new questions. "Is there really such a thing as a mass audience - aren't there really small homogeneous audience segments we need to understand better?" "Shouldn't the audience be considered as a consumer whose needs and wants are at the center of the design process?" Audience satisfaction, once freed of the commercial bias, they argued, can be a humane and satisfying way to ensure an effective communication design program.

All of these strategies have influenced one another. There are no formal dogmas today--biased and opinionated practitioners, perhaps--but no rigid dogmas. Each strategy has been enriched by writers such as Rogers, McLuhan, Schramm, Green, Beltran, Bordenave, Whiting, Kohler, Wright, and Seth to mention only a few. These men have stepped back from the day-to-day conflicts, and from different perspectives have enlivened and refocused the debate. Outsiders from other disciplines also have made an impact. Behavioral psychology with its contribution to an understanding of how people learn, engineering with its incessant array of new gadgets and technologies, and the development sectors, (health, education, agriculture, population, and nutrition) with their increasingly sophisticated demands, have reshaped how we use communications today.

In summarizing how modern communication can contribute to development, Dr. Robert Hornik, under a contract with Stanford's Institute for Communication Research, characterized development communication's potential contributions in eight ways. The characterizations are still useful guidelines for designing strategies and approaches. Taking only minor liberties with Dr. Hornik's own language, and adding examples of projects illustrate each role, they are as follows:

1) **Loudspeaker:** reaching large numbers of people with regular information at low cost, as in the Philippine Masagana 99 program, Basic Village Education in Guatemala, and Radio Docteur in Haiti.

2) **Reformer:** using media as a strategy for overall institutional reform, as in El Salvador's ETV reform, the Rural Communications Network in Liberia, and the Rural Satellite Programs in the West Indies, Indonesia, and Peru.

3) **Organizer:** bringing systematic structure to learning and integrating multimedia, as in Honduras' Mass Media and Health Practices projects, Colombia's Radio School Movement, and the Breastfeeding Campaigns in Trinidad and Tobago.

4) **Equalizer:** providing access to information independent of poverty, isolation, and language barriers, as in Tanzania's Man Is Health Campaign, and India's SITE Program.

5) **Enricher:** standardizing and raising the general level of instruction and information diffusion across wide distances and conditions, as in Kenya's Radio Language Arts and Nicaragua's Radio Mathematics Project.

6) **Accelerator:** promoting contact between otherwise disparate groups, such as in Ecuador's Radio Tabacundo, Lesotho's Distance Teaching Center, and West Africa's experience with rural animation.

7) **Legitimizer:** transferring prestige and popularizing new ideas, as in Thailand's Population Program, Tunisia's Dr. Hakim Nutrition Program, and Swaziland's Rural Water Borne-Disease Control Program.

8) **Researcher:** collecting and transmitting information from grassroot sources to policy directors, as in Indonesia's Nutrition Communication and Behavior Change Project and The Gambia's Mass Media and Health Practices program.

## 2. Geography: the Importance of Language, Culture, and Politics

Television spots on condoms in Bolivia, explicit breastfeeding posters in Tunisia, and/or rapid-fire ad campaigns in Somalia will not work. Yet these techniques would work in other counries.

Regional differences in culture, media use, and language determine communication strategy and planning. While many of the processes and strategies of communication travel well, the specifics of message, channel, and positioning must be adaptable to a wide range of important differences in Africa, Asia, the Middle East, and Latin America. For example, African broadcasting is generally dominated by a single government channel; commercial advertising is uncommon. Radio is seen as an extension of national policy, a tool for national education. Programming, particularly in Anglophone countries, is highly didactic and often somewhat rigid by Latin American or Asian standards. Latin America is characterized by a huge private sector communication industry, encompassing hundreds of "mom and pop" radio stations alongside powerful communication networks. Print media is often sophisticated and audiences are saturated with high quality commercial advertising.

In Latin America and the Middle East broadcast languages are relatively homogeneous, while African and Asian nations must struggle with the dilemma of multilingual and multicultural societies.

In Asia, folk media play an important role in village life, and population density opens new challenges and opportunities different from those of the scattered settlements and individual homelands more characteristic of southern Africa and rural Latin America. The Middle East is undergoing a revolution of values. Islamic fundamentalism is shaping the use of modern communications as never before. In many countries, modern communication is a double-edged sword, both fostering a return to traditional ways and posing a threat to the continuity of past virtues.

These differences must be considered in the development of specific programs, and in the dissemination of useful information about communication's role in development. The contextual realities of language, culture, geography, values, and politics shape the parameters of communication's potential.

## C. THE DEVELOPMENT SECTOR: FIVE PARTNERS IN CHANGE

Policymakers and program designers in agriculture, health, nutrition, population, and education generally have accepted development communication's offers of partnership. Each sector has used communication in slightly different ways to meet the particular problems they encounter. Agriculture is concerned with long-term changes in basic approaches to farming. Health focuses more on specific, high-impact changes. Nutrition addresses changes in lifestyle, while population tackles issues of significant public controversy. Finally, education has focused on communication's ability to expand access to educational opportunity and improve specific student performance.

### 1. Agriculture

Agriculture has had perhaps the longest relationship with communication. Farm forums, regular agricultural broadcasts, and a few international programs such as Basic Village Education (BVE) and Masagana 99 have suggested the benefits of this.

A key factor in improved agricultural technology is the farmers' acceptance of the need to change familiar procedures. The risks are high, the support of knowledgeable extension workers useful. For several decades, the agricultural extension agent was the link between the research institutions and the farmer.

A major pilot project of the late 1970s, **the Basic Village Education (BVE) Project**, was designed to test the effectiveness of a variety of communications interventions in rural Guatemala, and has provided agricultural planners with conclusive results on the ability of communication to effect the adoption of new farm practices. The project was carried out in two different cultural environments of Indian and non-Indian populations, matched by a control area. There were four communications interventions tested: radio alone, village monitors alone, radio plus monitors, and radio plus monitors plus extensionists.

The evaluation of BVE showed that each media intervention had a positive impact on the target audiences. In the relatively more developed of the two test sites, the adoption rate of new information via radio alone was higher than in the more remote, less advanced site. No single medium or combination, however, worked best in all situations. The lesson from BVE is that agricultural development can be accelerated by adding carefully developed, seasonally oriented, and frequent radio broadcasts to an existing extension program.

**Masagana 99** was an ambitious, multifaceted agricultural development project which turned the Philippines from a rice-importing to a rice-exporting nation in less than five years. New seed varieties, readily available credit, high-level government support, a straightforward and clear innovation strategy, and a well-organized and professional communication program resulted in dramatic production increases. As part of a massive overall program, communication was essential. Many other agricultural programs have used communication:

- Sudan's Rural Television Project
- Peru's Video-Based Agricultural Training Project
- Bangladesh's Farm Broadcasting Radio
- Pakistan's Barani Project
- Botswana's Lefatshe La Rona Program

Agriculture is a sector that accounts for a large share of AID's investment strategy and is particularly important because the potential for communication support is still largely untapped. While the number of agricultural programs that use communication is quite large, the diversity of approaches is still limited. The special seasonal constraints on agricultural messages, the long-term outcomes and unpredictable events which effect production changes, the farmer's understandable conservatism about change, and the relatively narrow spectrum of easily generalized messages make agricultural communication a special challenge requiring special attention.

## 2. Population and Family Planning

This sector has had perhaps the most serious relationship with communication. Where politics permit, population professionals have used mass communication aggressively to promote the idea of family planning as well as a wide range of specific products. Commercial advertising has promoted contraceptive products such as "Panther," "Pearl," "Jamu," and "Preethi," and sharp increases of sales and acceptance have been associated with quality communication.

Two problems shape the expansion of communication support to population. First, public and governmental resistance to family planning in some countries restrict the use of mass media. For example, only within the last few years has population been mentioned on broadcast media in Egypt, one of the world's most densely populated countries. Asian nations have largely broken the barrier, but Africa, the Middle East, and Latin America still struggle with this issue.

The second problem is that product sales and consumer attitudes, rather than product use, are the measure of success. Because family planning deals with one of the most personal and intimate aspects of human experience, direct research on how family planning advice is being applied at home is difficult to collect. In most societies, even discussion of these issues with outsiders is unthinkable. The search for better measures than product sales is now beginning.

## 3. Education

Education and communication also have been partners. A wide variety of programs both in and out of schools has provided some of our best evidence that communication can work.

Perhaps the most successful test of radio's ability to carry the full teaching load in a primary school curriculum has been a carefully documented AID effort in formal distance education. **Radio Mathematics** in Nicaragua (1974-1979) was designed to test the cost- effectiveness of radio compared to traditional teaching by taking the lessons of computer-assisted instruction (CAI) and applying them to radio instruction. Program designers from

Stanford University worked with the Nicaraguan Ministry of Education to translate the primary mathematics syllabus into radio programs that would provide relevant numeracy skills to a test group of rural students. The programs carried the entire mathematics curriculum through a combination of entertainment, drill, student response, physical activities, and the principles of distributive learning.

Radio Math demonstrated significant improvement in the learning skills of the test group over control group students. While start-up costs of a program of this sort can be high, the longer the program is used (and the fewer the students who have to repeat the grade), the more cost-effective it becomes. The Radio Math project is now being replicated in Thailand, and its format is being applied to other subject areas, such as language teaching in Kenya, basic education in the Dominican Republic, and science education programs now in the planning stages. The approach has proven to be valid and adaptable, not only to different cultures, but also to other subject matters and instructional tasks.

There is less experience with media use in the secondary schools of developing countries. The experiments with ETV in the U.S. and its extension in Colombia, El Salvador, Niger, the Ivory Coast, and American Samoa have not been widely replicated. Costs for training, systems maintenance, and software development have generally proved too high, and early enthusiasm has dwindled. While Indonesia is now expanding TV's applicability to secondary schools, a new generation of worldwide educational TV experimentation seems unlikely at this time.

At the university level, the pace-setting work of **Britain's Open University** has had such a worldwide ripple effect that some experts agree that "The time for an Open University of the World has now arrived."1/ While that promise is yet to be realized, **distance education** enjoys the fruits of earlier labors, now encompassing **correspondence education, adult education, higher education,**

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1/ Joseph Pelton, "Meeting the Global Educational Challenge in the Information Age," CITE Newsletters, Winter 1984.

**educational technology, in-service training, and nonformal education.** A combination of print materials and broadcast or recorded media is seen as the answer to many of today's educational problems. The sheer numbers that China is now handling in that country's TV University cannot fail to impress those who have to contend with a rising birth rate or burgeoning adult enrollments and shrinking education budgets.

4. **Health**

Until recently, health has been a somewhat reluctant partner of communication. Dominated by highly trained physicians committed to individualized patient care and education, the health section only recently has begun to explore the role that communication might play in international health. Experiences in the U.S. such as the **Stanford Heart Disease Prevention Program,** and numerous **cancer, seat belt, and hypertension campaigns,** offer tempting models for international health professionals. Dr. Lawrence A. Green's work on health education planning (Health Education Planning: A Diagnostic Approach, 1980) provides one of the most comprehensive systems approaches to effective communication for health. Several international programs developed during the last five years have demonstrated the potential of communication to address particularly critical health priorities.

A decline in infant mortality due to diarrheal dehydration has resulted from AID's highly successful **Mass Media and Health Practices project (MMHP).** MMHP demonstrated the effectiveness of educational messages based on audience research and a design that integrated the same information in a variety of ways through radio, posters, photonovels, flyers, and health workers. The program is exciting not because it used a lot of media, but because it carefully selected media for special purposes and developed a cost-effective minimal package. Careful audience research prior to the design of educational materials identified levels of knowledge, behavior patterns, beliefs, and expectations of key audience segments. Testing the materials prior to use assured audience understanding of the messages carried. Regular monitoring permitted mid-course correction.

The program worked initially in two different countries: **Honduras**, with a large and relatively sophisticated media environment, and **The Gambia** with a more typically African centralized broadcast system. The MMHP approach, generally characterized as a public communication campaign, is eclectic, drawing heavily from social marketing but adding key message selection and design criteria from behavioral psychology.

The project is also demonstrating the validity of the approach in different settings, with other health problems. **Ecuador, Peru, and Swaziland** have become MMHP diffusion sites, and disease prevention, family planning, malaria, tuberculosis, and immunization have been added as key message clusters. Similar programs in **Egypt**, as well as more traditional health communication programs in **Haiti, Ghana, Colombia, Kenya, and Zimbabwe**, are showing that communication for health merits wider application.

5. **Nutrition**

To improve nutrition in developing countries, the changes required are often fundamental life-style changes. Programs in **Tunisia, the Philippines, Indonesia, Colombia, and Bolivia** suggest different ways that communication can be used by nutrition fieldworkers, school programs, and private voluntary organizations to encourage the adoption of new nutritional advice. A World Bank program in Indonesia is particularly encouraging. After two years, significant gains in nutritional status over control group children was noted as a result of a well-integrated and media-supported nutrition education program.

6. **Conclusion**

The conclusion to be drawn once again is that sensitivity to sectoral issues is critical. Communication for agriculture, health, education, population, and nutrition are mini-worlds unto themselves. They have different needs; they speak different professional languages; they respond differently to technologies and they impose unique sets of conditions.

## D. TECHNOLOGY: STILL A DRIVING FORCE

| | |
|---|---|
| 1457 | The Gutenberg Bible |
| 1702 | First daily newspaper in English |
| 1839 | Photography developed |
| 1876 | First telephone message |
| 1894 | First motion picture |
| 1926 | First radio network |
| 1941 | First commercial television |
| 1949 | First binary computer developed |
| 1962 | First active communications satellite launched |
| 1971 | First portable video camera popularized |

As suggested above, the interval between each new communication innovation is decreasing rapidly. Twenty years passed between operational radio and TV; less than five between videotape and microprocessors. The new technologies are generally less expensive, more portable, durable, and more reliable than ever before. And as J. Richard Munro points out, "The history of communication is essentially the story of 'more'."2/ Radio did not replace the newspaper, and TV did not replace radio. Specific media may change their function but they rarely disappear.

Nationhood has not been an important barrier to technology diffusion. Hotel computers in Sri Lanka are just as good as those in France, or almost. Telephones in Bolivia are as functional as those in Canada, or almost. Poverty, however, has been an effective barrier to the widespread diffusion of most communications technology. Street women in Ecuador who live in cardboard boxes only a few yards from the Quito Hilton have never made a telephone call, used a microprocessor, or watched a TV, nor are they ever likely to.

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2/ Munro, J. Richard, "Up with the New and the Old," in Communication in the Twenty-First Century.

In 1973, Wilbur Schramm's study, Big Media, Little Media, was published as a result of work initially sponsored by AID. In it, Schramm took a comprehensive look at different media, and their limitations, potential, and applications. Studies on evaluation and cost-effectiveness by Klees, Wells, Jamison, Mayo, Orivel, and others shortly followed. Present in all of these studies was the concern for the educational needs of developing countries. Distance education for such issues as in-service teacher training or non-degree instruction was seen as a means to accommodate the learning needs of large numbers of potential students for whom traditional education was impossible.

Schramm's characterization of big and little media became a way of discussion about media for a decade, and it shaped much of our thinking about appropriateness. He not only detailed different roles for various media, but articulated the need for multimedia strategies and emphasized the importance of media economics in selecting media mix. Over the years our views of different media have changed dramatically.

## 1. Television

Television was to be the first "wonder drug" of the communications revolution. Educators would no longer be limited to just talking; their images and actions--pointing to maps, demonstrating precise processes, showing film clips--would be broadcast simultaneously to thousands of students in classrooms all over a given school district or even an entire nation. Education was never to be the same again.

In the developing countries, the promise of reaching large numbers of students with uniformly excellent teachers, innovative curricula, and stimulating visuals particularly fired the imagination of educators. Niger, the Ivory Coast, El Salvador, Colombia, Korea, and Japan all experimented with educational TV. India's experiments with village TV opened an important debate on the usefulness and practicality of this medium for grassroots community education. The experience with "Sesame Street" in the U.S. and its adaptation in the Middle East and Latin America demonstrates how high-quality television production can contribute to instruction.

Today, only a few countries continue to use television for supplemental or complementary educational instruction. The dream of a world television revolution has faded. The cost of system maintenance and software production ultimately outweighed the measurable benefits. Educational TV was the first target of a growing awareness that while media can be effective, it is a tough and costly business to make it so.

Television today is beginning to play a different role in the communication mix. Improvements in instructional technology (the ability to plan and develop more effective teaching materials) are being applied to television in special settings. Indonesia, a country of 138 million people (1977) spread across some 3,000 islands, is taking a new look at instructional TV. A four-year investment in software development and training, prior to the installation of new TV production hardware, is reversing TV's traditional hardware and software priorities.

In other settings, TV is playing a role in reaching those who influence policy and shape decision-making. In countries like Egypt, Peru, Nigeria, and Pakistan, the number of TV sets has grown rapidly. In Egypt, TV is now being used to reach decision-makers on such key issues as family planning, breastfeeding, and infant diarrhea. In Brazil, TV has been effectively used to foster public support for policy changes and to further public awareness. In Malaysia it is being used to alter attitudes toward topics as widely diverse as drug addiction and litter clean-up.

Television remains expensive. In a recent Dental Association campaign in California, TV air time consumed $1.3 million of a total $1.6 million budget. Staff salaries, research, the printing of hundreds of flyers, posters, and kits, and the production and broadcast of numerous radio spots cost only $300,000 of the $1.6 million total. Television can be less expensive than this in developing countries, but commercial TV programming anywhere is still a comparatively costly endeavor. Consequently, cost remains an important argument for limiting TV's use to topics of high priority, targeted at influential audiences.

## 2. Radio

Radio is the oldest and probably the least glamorous of modern broadcast media. Some technologists might even argue that only teenagers still listen to radio at all. That, of course, is not true. In the U.S., "All Things Considered" attracts a sizable audience, and more people probably first heard about the attempted assassination of President Reagan on radio than on television.

More importantly for our purpose, however, there are now 16 thousand radio stations in the world and over one billion receivers; one for every five people on the planet. The diversity of receivers varies significantly from one geographical region to another, but as illustrated below, even in those areas with the lowest per person ownership, there are about 8.8 people per radio receiver.

**Radio's effective reach,** or the number of people who own and listen to radio, is also impressive. Recent studies in Honduras showed that 73 percent of rural households had a working radio and 65 percent of the women listened to radio every day. In The Gambia, 59 percent of village families own a working radio and listening is particularly high at certain hours of the day. Studies in these countries showed marked variation in different groups' access to radio, in the number of radio programs heard, in listening times, and in the credibility of radio as a source of information on various topics. We know now that to transform radio's potential into reality, each of the questions must be understood and addressed on a country and often a district level.

**Radio works.** Experience in Kenya, Nicaragua, and the Dominican Republic shows conclusively that radio can be used for education to improve primary school student performance. In Nicaragua, pupils who were taught math by radio learned better than students in traditional classrooms; in some cases up to 50 percent better. In Kenya, more than 2,000 rural children in seven different linguistic regions are now learning English by radio. After one year of broadcasts there, first grade pupils gained 50 percent in listening and 23 percent in reading skills over pupils in conventional classrooms. A new program in the Dominican Republic is using radio to cover a broad basic education curriculum for children who have no access to formal schools. Preliminary results show first-year gains of 60 percent by radio students over control students. A future

program on radio science is now being planned. In addition, more than 6,000 primary teachers in Nepal have studied for their School Leaving Certificates by radio.

In Honduras and The Gambia, radio is playing a major role in promoting oral rehydration therapy (ORT) in rural areas. Mass media strategies relying on radio, print, and health worker training are teaching thousands of rural women to mix, administer, and monitor ORT. After one year in Honduras, 93 percent of rural women in the target area of 600,000 learned what ORT was and 48 percent of the women reported using it to treat diarrhea. In The Gambia, after only eight months, some 66 percent of the women interviewed knew the correct oral therapy formula and 47 percent of the mothers reported using it to treat their child's diarrhea. The key to these successes was a comprehensive plan which included a practical supply and distribution system, a village research and monitoring program, a health worker training program, and radio.

Any comprehensive review of radio in development would span all sectors and all regions of the world. Agricultural radio forums in Latin America, a literacy campaign in Iran, population programs in India, the list goes on and on. Of the 100 development communication programs written up as Project Profiles by the Clearinghouse on Development Communication during the past seven years, 59 include radio as a significant communication channel. Today, radio represents, because of cost, potential reach, actual ownership, and broadcast areas, the best way to reach the largest number of isolated people at the lowest cost over the longest period of time.

### 3. Print Media

Print media--posters, flyers, pamphlets, stickers, buttons, billboards, newspaper ads, photonovels, direct mailing, etc.--represent the oldest and probably best understood form of communication. These media rely on the creative ability of graphic artists, photographers, designers, and writers to transform ideas into language and visual images which have a direct impact on peoples' emotions.

TABLE I

UNDERDEVELOPED COUNTRIES

| REGION | POPULATION (in 000's) | NO. OF RADIO STATIONS | NO. OF TV STATIONS | NO. OF RADIO RECEIVERS (in 000's) | NO. OF TV RECEIVERS in (000's) |
|---|---|---|---|---|---|
| Asia | 2,626,314 | 1,364 | 50 | 119,014 | 40,899 |
| Africa | 483,360 | 251 | 188 | 29,695 | 7,166 |
| Oceania | 5,157 | 24 | 3 | 969 | 209 |
| Europe | — | — | — | — | — |
| N. & S. America | 386,573 | 3,935 | 65 | 89,522 | 36,416 |
| TOTAL | 3,501,404 | 5,574 | 311 | 239,200 | 84,650 |

TABLE II

DEVELOPED COUNTRIES

| REGION | POPULATION (in 000's) | NO. OF RADIO STATIONS | NO. OF TV STATIONS | NO. OF RADIO RECEIVERS (in 000's) | NO. OF TV RECEIVERS in (000's) |
|---|---|---|---|---|---|
| Asia | 196,981 | 272 | 282 | 88,621 | 35,862 |
| Africa | 5,633 | 116 | 80 | 5,840 | 3,286 |
| Oceania | 27,378 | 146 | 43 | 18,530 | 6,639 |
| Europe | 354,646 | 413 | 53 | 119,359 | 87,402 |
| N. & S. America | 259,073 | 8,932 | 1,632 | 483,200 | 162,600 |
| TOTAL | 843,713 | 9,899 | 2,090 | 715,570 | 295,589 |
| TOTAL TABLE I & II | 4,345,116 | 15,473 | 2,401 | 954,770 | 380,239 |

Sources: Billboard Publications - World Radio TV Handbook.
NHK - World Radio & TV Facts & Figures.
CIA - World Factbook, 1983.

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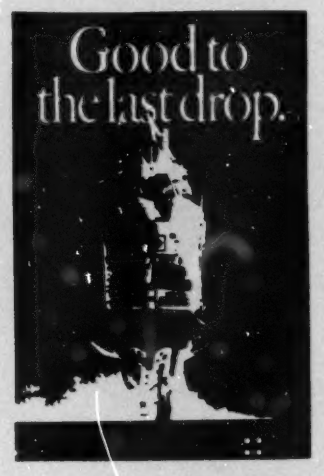
The power of images such as those below illustrates the ability of graphics to cut through rhetoric and argument and strike deep into a person's psyche:




They also show the cultural relativity of graphic impact. A teddy bear in rural Swaziland does not transmit the same message as it does in rural Kansas. The picture of blood plasma would probably be unrecognizable in rural Brazil, even if blood supplies were considered a local problem.

Graphics were traditionally the domain of creative designers/artists. With publications from Donald Bogue, Jane Bertrand, and others at the University of Chicago, attention began to shift in the '70s towards the importance of pretesting graphic products to ensure their appropriateness with new audiences. Simple systems were developed for analyzing how different audiences perceived visual images. Fuglesang's work in Africa was key to a whole genre of research on "visual literacy"--or visual fluency. Our understanding of how people see, like, understand, and use print media was enhanced greatly by this work.

At the same time, the growth in social marketing was opening up the need for new graphic products such as billboards, point-of-purchase displays, and packaging, enriching our understanding of how

print can interact with other media. Popular media--photonovels and comic books--were the subject of research in the '70s with interesting conclusions on their relative appropriateness and usefulness to rural audiences.

The fundamental constraint to producing quality graphics, however, has not been fully overcome. The mix of artistic and research capacities needed to produce a brilliant graphic product are still hard to bring together. Pretesting, now a minor dogma in most developing countries, is too often a preproduction ritual whose results are ignored, misinterpreted, or even suppressed. Quality printing is expensive; distribution continues to be the single most important obstacle; and literacy, both visual and written, is still a serious constraint.

But the unique ability of graphics to illustrate and remind has not been replaced by any other medium. When a mother needs to know the right formula for mixing a diarrhea medicine, she needs to know at the moment her child is ill--she cannot wait until a radio program is broadcast or until she can reach a health center, which might be closed or overcrowded. Simple printed instructions can make a timely and potentially life-saving difference. When an extensionist wants to illustrate the effects of a new fertilizer on corn growth, a picture comparing the untreated and treated corn is an invaluable visual aid.

The published literature on the comparative effectiveness of photographs, drawings, cartoons, etc. is extensive, but the fundamental usefulness of print media to development communication is unquestioned.

### 4. Traditional and Folk Media

As development communication has shifted from a one-way to a two-way process, traditional and folk media have taken on more importance. Puppets, games, theatre, song, dance, mime, all represent powerful means for strengthening the interpersonal and mass media channels. Their strength comes from their acceptance by rural audiences and their proximity to existing value systems. As part of a long-term strategy they add impact and humanity to many programs which would otherwise be sterile and vertical. They foster an intimacy between audience and subject matter. Alone, their

impact often has been exaggerated, but as part of a comprehensive program they add humor, immediacy, and power.

### 5. Other Media

Film, video, slides, and tape recorders, all have a role to play in the communications revolution. Anglophone Africa has long been the home of the **"mobile van"**--a movie projection room on wheels, on a loose schedule that carries a development message to rural audiences, frequently supplemented with advertising. The projectionist often serves as the facilitator to draw the audience into a discussion of the evening's topic, encouraging the adoption of whatever behavior the film presents. It is the lack of integration into a development strategy that has made film less effective than its cost warrants. Carefully planned and integrated into a total program, film could be a useful partner in the development process.

**Video** is gradually gaining support as a useful, effective training medium. The FAO/UNDP project, initially set in Peru to train farmers in appropriate farming techniques has spread to Mexico, Honduras, Paraguay, and Brazil, and FAO is committed to introducing the methodology throughout Latin America.

**Slidetapes** can be useful presentation media, but more often than not the motivation to produce a slidetape comes more from a producer who loves to make them than from an audience who loves to see them. Like folk and traditional media, slidetapes add some dimension to a small instructional system, but too often slidetapes are seen as ends in themselves, not explicitly related to clear programmatic goals.

**Tape recorders** are particularly useful as a motivating tool when used to collect audience experiences which are then shared. The consensus needed to promote grassroots support for a project can be stimulated by the use of tape recorders. They also can play an educating role in such places as health or family planning clinics where they are available to play informational messages to the waiting clientele.

In each of these cases, the medium must be integrated and cannot stand by itself as the only voice of change.

## 6. New Arenas: Telecommunications

As a world leader in the development of operational communications satellite technology, the United States has been involved in conducting a series of unique demonstrations of that technology applied to the delivery of social services in developing countries. In 1971 NASA began experimenting with the use of satellite technology to promote health care and educational achievement, using the experimental Applications Technology Satellites. Although most of these experiments were conducted in the rural western United States and Alaska, the SITE experiment holds the most exciting potential for the developing world.

**India's Satellite Instructional Television Experiment (SITE)** was a cooperative effort between the United States and India to provide one-way satellite-delivered television broadcasts of programming related to agricultural extension, health care, family planning, national integration, and science education. The messages were broadcast simultaneously (via NASA's ATS-6 satellite) for one year (August 1975-July 1976) to 2,400 sites in six clusters of direct-receive stations in India. SITE successfully demonstrated the possibility of satellite communications in transcending geographical obstacles to serve dispersed populations.

In a demonstration that preceded SITE by four years, the world's first satellite-linked international health and educational network was initiated in 1971 using NASA's ATS-1 satellite. **PEACESAT**--Pan-Pacific Education and Communication Experiments by Satellite--links educational institutions in 12 nations from the western United States to Papua New Guinea, transmitting health, nutrition, education, and training programming. ATS-1 has substantially exceeded its designed life, and still serves not only PEACESAT, but also the University of the South Pacific.

In addition to the more formal projects outlined above, NASA's Applications Technology Satellites have been used in the South Pacific and elsewhere to provide **emergency communications** in the wake of hurricanes, tornadoes, floods, and earthquakes. Satellite communications have proven to be particularly suitable for emergency situations because the communication links are mobile, versatile, and reliable, no matter how adverse the weather or terrain.

In an effort to consolidate the experience of these early experiments and shift to an emphasis on operational systems to aid rural development, the U.S. Agency for International Development (AID) initiated the **AID Rural Satellite Program (RSP)** in 1980. The program was designed to include a series of pilot projects in developing countries, each project providing up to two years of rural operational service and building the institutional capability to maintain that service. Projects are under way in Indonesia and the West Indies. Peru is also the site of an AID satellite experiment in rural communiations. Feasibility studies have been conducted with Senegal and the Philippines. The RSP projects will apply interactive narrowband technologies--transmitted by INTELSAT, PALAPA, and other existing satellites--to development problems in agriculture, education, health care, and rural development. Earth stations will be linked to small surrounding communities by terrestrial radio and telephone systems, creating networks for audio teleconferencing, telephony, and radio broadcasting.

The rationale for applying communication satellite technology to development involves two premises:

- Economic benefits will accrue to developing countries that invest in telecommunications.

- Satellite technology is, in some development contexts, a cost-effective way to provide telecommunications capacity.

Historically, communications satellites have been designed as a substitute for undersea cable or terrestrial microwave on routes that carry heavy traffic, such as international and interurban routes. Satellite technology is proving competitive with terrestrial microwave in developing countries for three main reasons:

1) Satellites are insensitive to distance.

2) Satellites and earth stations are built to be highly reliable and self-maintaining.

3) Telecommunications via satellite have inherent flexibility. These general characteristics of satellite technology help to make the case for thin-route applications.

The primary concern of a developing country that leases satellite capacity is operating and maintaining the earth stations. These can be designed to operate passively in most situations, requiring technical expertise only for routine maintenance and in the event of station failure. Satellite technologies are, in addition, more flexible than microwave or cable technologies. Earth stations can be moved to provide service to particular places at particular times, making them attractive for specific development projects and for coordinating emergency and disaster relief.

Although systematic evaluation is required to determine whether satellites are a more cost-effective solution than microwave in specific development contexts, satellite technology is clearly superior for some applications. Unfortunately, not much empirical analysis has been undertaken to date in developing countries. Part of the United States' interest in conducting the series of two-year satellite demonstration projects in developing countries as part of the AID Rural Satellite Program is the systematic collection of such evidence.

In the area of direct economic benefit, telecommunications can make it possible for urban businesses to decentralize their activities, thus spreading some of the impact of economic growth to rural areas and helping to curb the trend towards urban migration, at the same time promoting the welfare of the rural poor. The potential for **improved administrative and economic efficiency** of both public and private enterprises is another direct benefit of reliable telecommunications service. For example, supplies can be ordered quickly and regularly, thereby eliminating the need for rural enterprises to carry large, expensive inventories. Another important area that benefits significantly from improved telecommunications is that of **social service delivery.** Development projects directed toward improving national education, health care, and agricultural production can be more effectively coordinated, administered, and extended through telecommunications. Rural telecommunications systems enable supervisors and extension agents to interact more frequently, and in-service training and regular communication can be provided to field workers.

The potential detrimental outcomes of telecommunications access in rural areas should not be overlooked. For example, urban migration may increase if information about the opportunities in the cities is available. Another common problem is that villagers who are relatively well educated tend to make more use of the telecommunication system than more disenfranchised persons, thus exacerbating adverse trends in income distribution. As mentioned previously, cross-sectional studies have not yet been able to prove conclusively the direction of the causal relationship between telecommunications infrastructure and general economic development.

If the level of unsatisfied demand for telecommunications throughout the world (and especially in remote regions) is any indication of its importance to socioeconomic development and the quality of life, then satellite technology cannot help but be an important catalyst to development efforts in the Third World. The United States is thus equally involved in demonstrating the benefits of telecommunications for development and in specifying those situations in which satellites can provide the necessary infrastructure more cost-effectively than an all-terrestrial network.

## 7. New Arenas: Computers

When the telephone was first invented, few of its modern applications were imagined. The advent of microelectronics offers the same potential for affecting society. The future of civilization is now being shaped by the silicon chip, which has put microcomputers within the reach of almost everyone in the world. Even in the poorest countries, people sport digital watches or credit card-sized calculators. Today virtually every country's national economy is dependent upon electronic transfer of currency, and in many an international airport there is a computer for reservations.

The U.S. Department of Agriculture's Office of International Cooperation and Development (OICD) is now routinely using Radio Shack's four-pound battery-operated lapsize Model 100 microcomputer for a variety of tasks in the U.S. and abroad. Meeting notes, drafts, reports, etc. can be silently keyed into the memory of this hand-held microcomputer which comes equipped with word processing and communication software, as well as a modem. Data is automatically stored and/or transmitted electronically to another

computer or a printer. OICD uses a Washington-based message utility system to which are connected several OICD microcomputer systems, word processors, and portable terminals. OICD staff communicate to and from overseas offices (e.g. Rome, New Delhi, Islamabad) via Telenet, a worldwide packet-switching network. The Telenet network transmits the data via satellite to the United States and then relays the message to the local message system in Washington, D.C.

The Texas Instruments Corporation h developed hand-held microcomputer-based learning aids that have been field-tested in Lesotho to teach mathematics. These learning aids use technology identical to Texas Instruments' "Speak & Spell" toys. More than toys, these are in fact self-contained dedicated microcomputers designed to perform simple drill and practice routines with an immediate oral response in the learner's own language and dialect. Evaluation studies of these devices are still needed, but the preliminary results are promising.

The Centre Mondial de l'Informatique in Paris is now designing a health care delivery system that uses dedicated microcomputers manufactured by the Husky Corporation. Field trials will begin in September in Chad when 20 health clinics will be provided with these dedicated microcomputers, programmed to offer diagnoses and treatment in response to the keying-in of common symptoms. Health workers will use them to learn new treatments and to keep current on existing skills.

The day has arrived when agricultural workers in the field can put data directly into lap-size microcomputers. An agricultural worker can collect data to help to determine crop yields or pest infestations. This data can then be sent on either disk or tape, by mail, in-person, or by telephone to Ministries or anywhere such data must be analyzed.

This kind of application presupposes, however, that the tasks for which computer technology is being promoted are, in fact, tasks for which it is suited. Nothing will discourage use of technology more than inappropriate uses or claims.

## E. SOME LESSONS FOR THE FUTURE

If computers represent an area of growing promise for development communication today, what can we learn from the past 20 years? Are there any lessons or cautions that seem particularly applicable to the future? Two decades of experimentation have enriched our understanding of how to organize and use communication to support development in a wide range of settings and conditions. Many of the old principles of good communication have proven valid, while others have been expanded and made even more effective. Dozens of projects, such as Masagana 99 in the Philippines, the Soybean Promotion program in Bolivia, Jamaica's Have a Heart Family Planning Program, the Mass Media and Health and Practices Program (MMHP) in The Gambia, and Radio Mathematics in Nicaragua have demonstrated that ideas borrowed from fields such as advertising, marketing, behavioral science, and anthropology, can be effectively and beneficially added to large scale programs of development communication. The key change has been a shift away from media-specific planning toward a systems approach to communication which uses any or all media as part of an interrelated network of inputs targeted at specific changes, responsive to specific audiences.

These three elements--**an audience orientation, targeting areas for change,** and **an integrated media network**--are the fundamental organizing principles of a growing set of hybrid communication strategies.

### 1. Audience Orientation

The audience (farmer, mother, young couple, or child), is not a receptacle into which new technologies are poured. Rather, it is an active catalyst whose needs, constraints, attitudes, and vocabulary orient and drive the communication component. Communication is not a link <u>to</u> the audience, but a two-way link <u>between</u> the researcher/planner, extensionist, and the audience.

Our tools for understanding the audience's perspective are growing. Our dependence on formal survey research and anecdotal information is giving way to smaller, behaviorally oriented studies. Concept testing, focus group interviews, behavioral trials, and intercept interviews are the jargon of a new genre of village

research techniques. These behavioral studies help identify the hidden constraints an individual may encounter in trying a new innovation, and less visible incentives which might inhibit or promote adoption. They help message designers to select vocabulary which the individual will understand, and to integrate the new innovation into the individual's own view of problems and needs. They help us to ask not only "How good is the new idea?" but "How good will the farmer, mother, or couple think the new idea is?"

We have learned, for example that there are five basic reasons why any new idea might not be accepted:

- Individuals may not have the skills or knowledge to use it.
- Individuals may not have the tools or materials to apply it.
- Individuals may see no immediate benefit from using the new idea.
- Individuals may receive greater benefit from doing something quite different.
- Individuals may perceive the new idea not only as having no benefit, but actually as somehow punishing--more work, more costly, less status, etc.

Traditionally, the job of communication has been to motivate individuals to want to use a new idea and then teach them the skills or knowledge to apply it. Behavioral studies help us to explore what "want" really means and to determine how best to teach the new skill clusters. What benefits will individuals experience? How delayed are these benefits? Will individuals relate the new technology to the resulting benefits? Will they see the cost (time, money, effort) as too high? How can we most persuasively describe the relative costs and benefits? What costs will individuals pay by giving up what they are already doing?

While these questions seem, and in fact are, simple, they are rarely asked in systematic ways. Our focus often has been on the innovation rather than the user. We describe the benefit of a new seed variety or new medicine, ignoring costs, often of a social nature, which the user considers too high.

A second major area of improvement has been our recognition that **all users are not alike.** Earlier mass media broadcasts tended to group together, focusing more on their similarities than their differences. We have too often allowed our view of mass media as big audience media to dictate what we say and to whom we address our messages. But now we can segment broadcasts better and direct them at special groups. We can develop differentiated message strategies for different audience groups and use techniques such as message tone, characterization, and scheduling to reach important subgroups with more relevant and persuasive information.

2. **Targeting Areas for Change**

The second basic principle which is changing our view of communication is a focus on selecting and giving priority to the content of development messages; targeting areas of opportunity rather than using a shotgun approach to information diffusion.

We know that for a new behavior to become routine, people need to perform it many times, to receive support from several places, and to have the support (or reward) as close to the new behavior as possible. This presents a real problem in development. Energy conservation may seem to have no immediate relevance. A new seed variety pays off months, even years later. A new medicine may have unpleasant side effects. In this context, simple media messages about these recommended behaviors can produce skeptical or incredulous users. Clearly, the messages we decide to present must be analyzed from this perspective and be carefully designed to ensure that observable outcomes are perceived as rewarding. This means a comprehensive communications strategy must help the user to deal sequentially with problems as they are encountered. We cannot teach everything at once, so we must carefully decide what's needed now and focus on that advice as a primary target.

3. **Media Network**

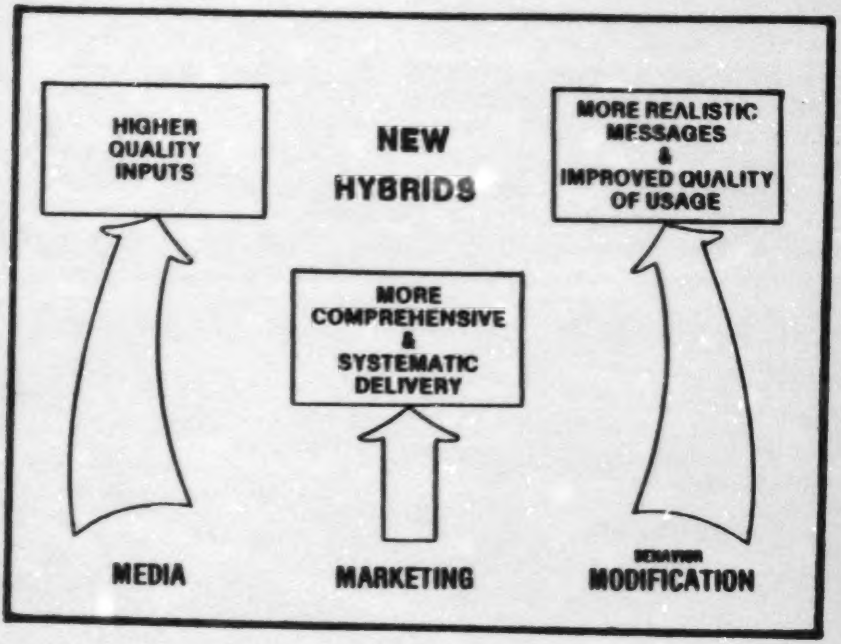
No single media channel is diverse enough to reach and convince every element of an audience. As indicated earlier, dozens of studies were carried out in the 1950s and '60s to determine which was better--radio, TV, print, or extensionists. The answer is now clear that "Which is better?" is the wrong question. The right question is: "Which is better for what purpose?" And some broad answers are emerging:

- **Broadcast media** is better at reaching a lot of people quickly with fairly simple ideas.
- **Print media** is best at providing a timely reminder of information we cannot expect people to remember by themselves.
- **Interpersonal communication**, including extensionists, group meetings, community organization, and demonstrations, is clearly the best way to teach, develop audience acceptance and induce behavorial change.

Perhaps a more important finding is that we need all three of these components to make an effective program. We need to reach lots of people quickly; they need some reminder of what they have been told by us; and they need to believe us if they are going to take our advice. Effective communication is a three legged stool. If one leg is missing, you don't have much of a place to sit.

A new set of questions has resulted from these findings. How do we best orchestrate various inputs to maximize their impact and minimize our costs? We cannot use all channels all the time because all channels are too expensive. We have to carefully select elements from each of the media groups and then integrate them so that they multiply the importance of each other.

We need what communication specialists call a **channel strategy.** Channel strategies are situation specific. They grow from an understanding of a particular country, a particular program, a particular audience. They are based upon preprogram research into questions such as: Who listens to what? Who reads? What is the cost of each media channel? How complicated is the advice? How accustomed to and/or tired is the audience of radio, or print messages? Whom does the audience trust for advice on a given topic? An important new concern is that we need a specific, systematic way of ensuring that the messages, directed at selected audiences through various media, are going to interact with one another to promote change.




4. Summary

A new generation of communication programs is now on the drawingboards. Instructional media, social marketing, and behavioral psychology are contributing to our ability to use communications in support of development. As illustrated above, the programs represent hybrid systems which bring together what we have learned

about improving media with new ways of organizing and integrating media and with new approaches to understanding and persuading our audience.

Effective development communication depends on **users**, their needs, attitudes, perceptions, and behaviors. A communications strategy must be **comprehensive**, combining a detailed understanding of the advice, its cost and benefits as perceived by the user, the ways it will be delivered, and the consequences it will produce. The approach must be **balanced and complete**, not emphasizing one element to the exclusion of another. **New research techniques** are needed which permit us to track more easily an individual's response to communication programs so that mid-course corrections can be made as needed. These techniques must be practical, reliable, affordable, and feasible. The resulting messages must be **simple, clear, relevant,** and **repeated often** if they are to be heard, understood, and accepted.

These are the lessons of development communication learned through trial and error, pretest and evaluation, dissemination and feedback over the years. They are shared so that past mistakes can be avoided, and future development messages as effective as the communications specialists can make them.